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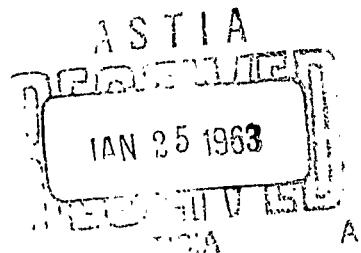
U. S. NAVAL AIR DEVELOPMENT CENTER

JOHNSVILLE, PENNSYLVANIA

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ENGINEERING DEVELOPMENT LABORATORY	
REPORT NO. NADC-ED-L6280	20 SEPTEMBER 1962
COMPONENT RELIABILITY TEST	
Or	
AUTOMATIC LANDING SYSTEM RELAY BOX	
BUREAU OF NAVAL WEAPONS	
WEPTASK NO. RM-44-1-001125-1-001-00000	
PROBLEM ASSIGNMENT RM-43-1	



U. S. NAVAL AIR DEVELOPMENT CENTER
ENGINEERING DEVELOPMENT LABORATORY
JOHNSVILLE, PENNSYLVANIA

REPORT NO. NADC-ED-L6280

Subj: BuWeps Weptask No. RM-4201-001/202-1/F017-06-05, Problem
Assignment No. RM-43-1; Automatic Landing System Relay Box,
Component Reliability Test of

1. General. This report describes the component reliability test of the automatic landing system (A.L.S.) relay box, NADC part No. D-11367-1. A test setup is to be assembled as shown in figures 1 and 2. The following equipment is required to perform the reliability test of the A.L.S. relay box.

- a. Megger, 500 volt
- b. Ohmmeter, Simpson 260
- c. Test Panel, figures 1 and 2

The following checks and tests are to be performed on each unit under test. Record comments on the Test Data Sheet.

2. Visual Inspection. Insure that relays have been reliability tested. Visually inspect the unit for obvious faults or poor insulation.

3. Insulation Check Check the leakage resistance between all contact pins and case with a 500-volt megger except those shown below. Insulation resistance should be more than 50 megohms.

J1	-	C, D, E, F, N, V, W
J2	-	A, G
J3	-	B

4. Resistance Check. Check the resistance between the points shown below. Resistance shall be within 10% of the values given.

J1	-	C to Case	330 ohms
J1	-	E to Case	330 ohms
J1	-	P to J1 - Q	540 ohms
J1	-	R to J1 - S	300 ohms
J1	-	T to J1 - U	180 ohms
J1	-	V to Case	340 ohms
J2	-	A to Case	340 ohms
J2	-	B to J2 - D	220 ohms
J4	-	A to J4 - B	220 ohms
J4	-	D to J4 - E	180 ohms

5. Continuity Check. Check for continuity between the pins of connectors shown below.

J1 - C to J1 - D	J1 - N to Case
J1 - E to J1 - F	J1 - P to J4 - E
J1 - G to J1 - H	J1 - S to J4 - A
J1 - J to J1 - K	J1 - V to J1 - W
J1 - L to J2 - C	J2 - B to J3 - A
	J2 - G to Case

6. Bench Operation. With all switches off, connect unit and power (28 v.d.c.) to test panel. Perform the operations listed in the left column and verify the desired results shown in the right column.

<u>Operation</u>	<u>Result</u>
1. Turn the STANDBY switch ON.	1. STANDBY 1 and STANDBY 2 lights come ON.
2. Key CORNER REFLECTOR switch to UNCOVERED.	2. CORNER REFLECTOR UNCOVERED light comes ON for 3 seconds.
3. Key ALS switch to ENA/ALC.	3. STANDBY 1 and STANDBY 2 lights go OFF and PW A & B and PW A/E lights come ON.
4. Key ALS switch to WAVEOFF.	4. ENA/ALC 1 and ENA/ALC 2 lights go OFF and STANDBY 1 and WAVEOFF light come ON.
5. Turn the STANDBY switch OFF.	5. STANDBY 1 and WAVEOFF lights go OFF.

7. Vibration Test. Mount relay box on vibration test fixture for installation in aircraft.

- a. Vary the vibration frequency from 10 to 15 c.p.s. with an applied double amplitude of 0.01 inch to determine primary resonant frequency if any.
- b. Vibrate at each resonant point for fifteen minutes with an applied vibratory acceleration of 1.5 g's or less so that the displacement does not exceed 0.01 inch.
- c. Vibrate at 15 c.p.s. with the input displacement amplitude of 0.01

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d. During vibration tests, repeat paragraph b every 2 hr.

8. Final Tests. Repeat the tests and checks of paragraphs b-f, paragraph

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Supt., Target Control Div. I

• The GCF of $10x^2y^3$, $15x^3y^2$, and $20x^2y^4$ is $5x^2y^2$.

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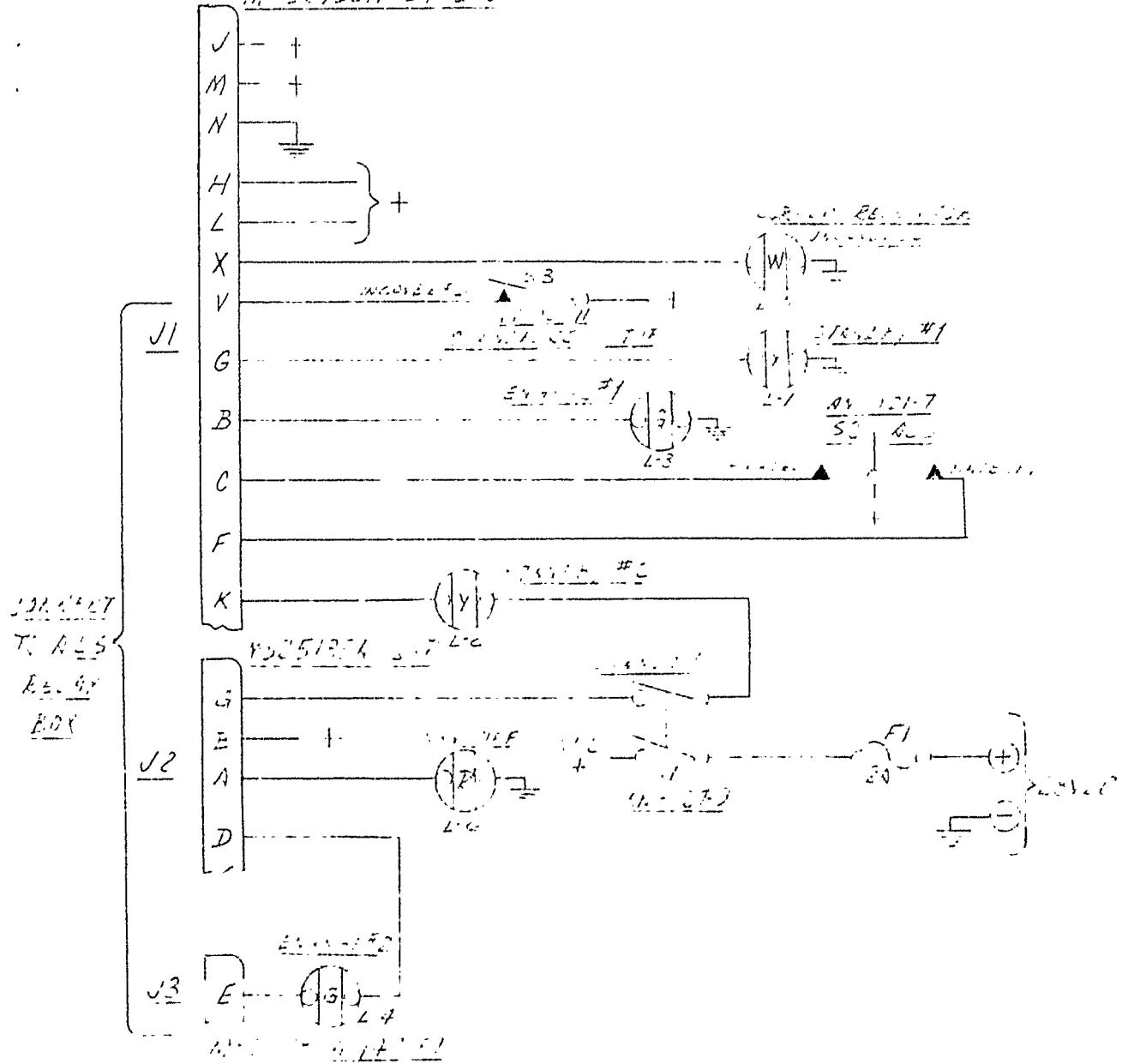


FIG. 231

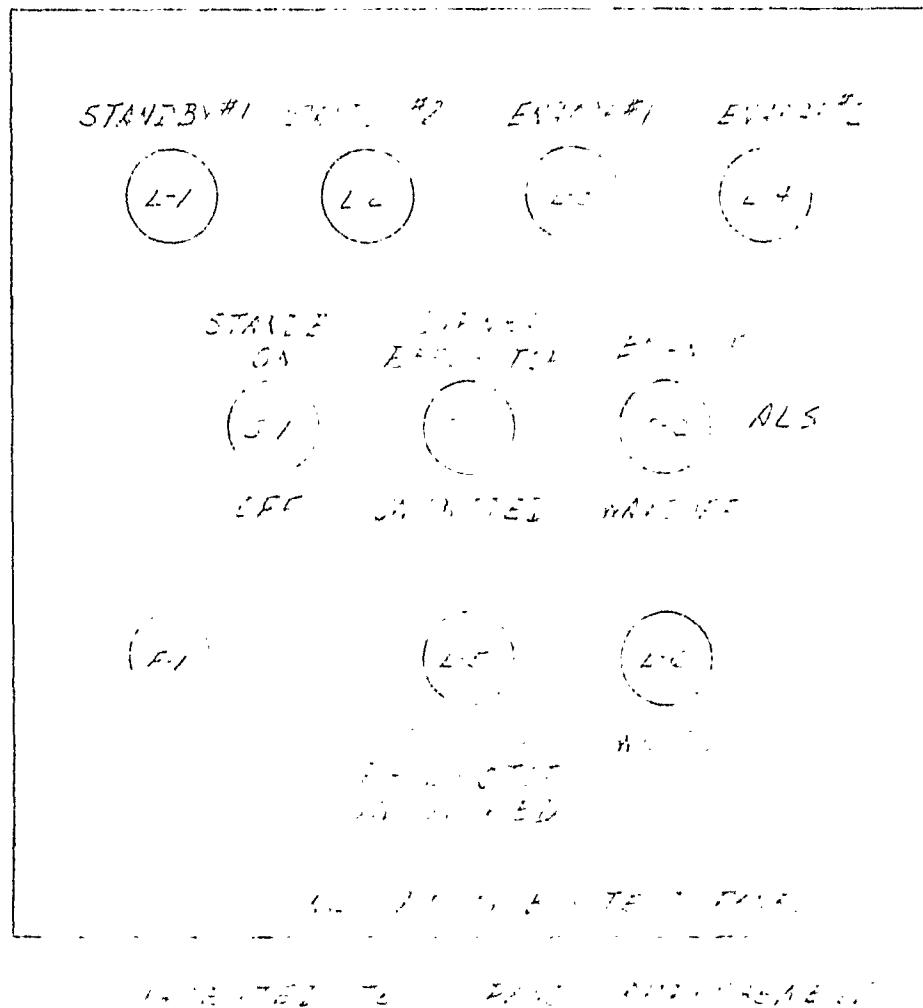


FIGURE 2

TEST DATA SHEET

A.L.S. RELAY BIX NADS-D-11967-1

<u>PNR.</u>	<u>TEST</u>	<u>INITIAL</u>	<u>FINAL</u>
2.	VISUAL INSP		
3	INSULATION CHECK		
4	RESISTANCE CHECK		
	U1-C TO CASE		
	U1-E TO CASE		
	U1-P TO U1-Q		
	U1-R TO U1-S		
	U1-T TO U1-U		
	U1-V TO CASE		
	U2-A TO CASE		
	U2-B TO U2-D		
	U4-A TO U4-S		
	U4-D TO U4-E		

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